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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,195	08/08/2001	Shuichi Naito	M2173-1	1077

7278 7590 03/03/2005

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EXAMINER

TSAI, SHENG JEN

ART UNIT	PAPER NUMBER
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2186

DATE MAILED: 03/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/924,195	NAITO, SHUICHI	
	Examiner	Art Unit	
	Sheng-Jen Tsai	2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/07/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-20 are presented for examination in this application (09,924,195).

Acknowledgement is made to the Information Disclosure Statement received on September 7, 2004.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, and 6-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komori (U.S. 6,490,663).

As to claim 1 Komori teaches **an electronic control apparatus** [Electronic Control Apparatus having Rewritable Nonvolatile memory (title)], **comprising:**

a storage portion [figure 3 shows the block diagram of storage portion, including a boot program storage area, a check program storage area, and an application program storage area];

a memory portion in said storage portion [figure 3 shows flash ROM in the storage portion];

a security flag portion in said storage portion [the head address of the check program storage area effectively serves as a security flag in the following way: The head address of the check program storage area 132a is fixed, so that the check program stored in the check program storage area 132a may be accessed accurately

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from the boot program stored in the boot program storage area 131 (column 4, lines 34-38); it is determined at step S201 whether the head address, where the check program is stored, is not FFh and the check program itself for determining the presence/absence of the application program is present. Here, FFh (hexadecimal notation) means that all the 8 bits (1 byte) are 1 and corresponds to 255 (decimal notation). The presence/absence of the program can be determined by whether the head address of the program is FFh, because the cell content is generally FFh and the head address of the program does not become FFh, when the flash ROM 13 is in the erased condition (column 4, lines 52-62)];

said memory portion being in at least one of an initial state and a written state

[figure 6 shows the case where the application program (i.e. one of the memory portion) is either present (i.e., in the written state), or is not present (i.e., in the initial state)];

said written state exiting on a successful writing to said memory portion [figure 6

shows the case where the application program (i.e. one of the memory portion) may be present (i.e., in the written state)];

said initial state existing on at least one of an unsuccessful writing to said

memory portion and an unwritten state of said memory portion [figure 6 shows the

case where the application program (i.e. one of the memory portion) may not be

present (i.e., in the initial state and has not been written yet)]; said security flag portion

indicating a status of said memory portion as being in said at least one state [The

presence/absence of the program can be determined by whether the head address of

the program is FFh, because the cell content is generally FFh and the head address of the program does not become FFh, when the flash ROM 13 is in the erased condition (column 4, lines 57-62));

a control portion for controlling communication with said storage portion [figure 1 shows the control portion (item 11) comprising a CPU) and the communication unit (item 18) which is under the control of the CPU and communicates with the storage portion (item 13)];

said control portion including means for controlling, on a basis of said status, one of a writing and a rewriting to said memory portion according to an external standard having a delay portion [figure 4 shows the case where, based on the status of step S201 (if check program address != FFh) or the status of step S203 (if application program present), to wait for command from the memory rewriting device];
and said control portion further including means for bypassing said delay portion when said security flag portion indicates said status as being in said initial state, whereby said control portion avoids said delay portion [figure 4 shows that if the flag (i.e. check program address) is FFh (i.e. in the initial state), then the rest of the operations (steps S202 to S204) is bypassed].

With respect to claim 1, Komori's invention does not mention **a delay portion** that is to be bypassed or executed, depending on the status of a certain flag. However, Komori does teach the method of executing a first operation or a second operation based on the status of a flag (i.e. head address of the check program being FFh or not). In fact, such a technique of selecting from two operations based on the status of a flag

is so fundamental and is such a well-known practice that it can be found in all kinds of program. Therefore, it would have been obvious for one of ordinary skills in the art at the time of Applicant's invention to realize the fact that the teaching from Komori is adapted to be directly applicable to cases where the bypassing or execution of a delay portion is of interest and to incorporate it as needed.

As to claim 2, Komori teaches **an electronic control system** [Electronic Control Apparatus having Rewritable Nonvolatile memory (title)], **comprising:**

an electronic control portion [figure 1, item 11 is the corresponding control portion];
a storage portion in said electronic control portion [figure 1, item 13 is the storage portion];

said storage portion effective for storing operational data [figure 3 shows that the storage portion includes boot program, check program, and application, all relate to operation];

said storage portion being in one of at least an unwritten state and a written state [refer to "As to claim 1"];

first means for setting said written state as a first status existing upon a successful writing to said storage portion [the head address of the check program is set to a value different from FFh to indicate the presence of the check program (column 4, lines 33-46)];

second means for setting said unwritten state as a second status existing upon at least one of an unsuccessful writing to said storage portion and an initial storage portion [the presence/absence of the application program may be determined

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by whether the predetermined address is a predetermined data, a check sum coincides with a predetermined value or the like (column 5, lines 50-60));

means for writing and rewriting to said storage portion according to a security standard requiring at least a delay time before permitting said writing to said storage portion [figure 1, item 30 shows the memory rewriting device for writing or rewriting the storage portion];

and security bypass means in said electronic control system for identifying said at least one state and allowing said means for writing and rewriting to bypass said delay time where said unwritten state exists, whereby said means for writing and rewriting can write to said storage portion without said delay time [refer to "As to claim 1"].

With respect to claim 2, Komori's invention does not mention **a delay portion** that is to be bypassed or executed, depending on the status of a certain flag. However, Komori does teach the method of executing a first operation or a second operation based on the status of a flag (i.e. head address of the check program being FFh or not). In fact, such a technique of selecting from two operations based on the status of a flag is so fundamental and is such a well-known practice that it can be found in all kinds of program. Therefore, it would have been obvious for one of ordinary skills in the art at the time of Applicant's invention to realize the fact that the teaching from Komori is adapted to be directly applicable to cases where the bypassing or execution of a delay portion is of interest and to incorporate it as needed.

As to claim 3, Komori teaches **a security flag in said storage portion and said means for writing and rewriting effective to indicate said at least on state** [the corresponding security flag is the head address of the check program. Its value is either FFh (indicating one state) or any value different from FFh (indicating the other state). Refer to "As to claim 1"];

a first control portion in said electronic control portion [figure 1, item 11 shows the first control portion];

a first communication section in said electronic control portion [figure 1, item 18 shows the first communication portion];

and said first control portion effective to read said operational data from said storage portion and control said electronic control portion [figures 2, 4, 5, 6 show the programs and operations executed by the CPU of the first control portion].

As to claim 4, figure 1, item 30 shows the memory rewriting device which hosts the second control portion and the second communication portion. Although figure 1 does not explicitly show the inside structure of the memory rewriting device, it is to be understood that without the second control and communication portion of its own, the memory rewriting device will not be able to communicate with the CPU of the storage portion. [Further, the ECU 10 includes a communication circuit 18 for executing data communications with a memory rewriting device 30, which is connected when an internal combustion engine control program and data within the microcomputer 11 are to be rewritten (column 3, lines 35-40)].

As to claim 6, refer to "As to claim 1" and "As to claim 2."

As to claim 7, refer to "As to claim 1" and "As to claim 2."

As to claim 8, refer to "As to claim 1" and "As to claim 2." Further, figure 2, step \$101 shows the controller performs initial setting to initiate a power on state. Moreover, figures 2, 4, 5, and 6 illustrate the sequence of operations being performed during the initial/rewriting operations.

As to claim 9, refer to "As to claim 1" and "As to claim 2."

As to claim 10, refer to "As to claim 1" and "As to claim 2."

As to claim 11, refer to "As to claim 1" and "As to claim 2."

As to claims 12-13, refer to "As to claim 1" and "As to claim 2." Further, Komori also teaches that in the conventional determination of the presence and absence of an application program, the presence/absence of the application program is determined by providing 00h as the specific data at the specified address of the application

program, for instance at the last of the application program, and by reading the data in that address by the boot program and determining whether it is 00h. Here, h of 00h denotes the hexadecimal number (in hexadecimal notation), and 00h (hexadecimal notation) indicates 0 (decimal notation) in which all 8 bits (1 byte) are 0 (column 1, lines 51-60). Thus, it is also adapted to be utilized as a flag to indicate the status of storage portion.

As to claim 14, refer to "As to claim 1" and "As to claim 2."

As to claim 15, refer to "As to claims 12-13."

As to claim 16, refer to "As to claim 1" and "As to claim 2." Further, the apparatus disclosed by Komori is associated with a vehicle, as figure 1, item 20 shows an engine. [In FIG. 1, numeral 10 designates an internal combustion engine electronic control apparatus (ECU) (column 3, lines 19-20)].

As to claim 17, refer to "As to claim 15."

As to claim 18, refer to "As to claim 1" and "As to claim 2." Further, figures 2, 4, 5, and 6 illustrate the program flow of operations being performed during the initial/rewriting operations.

As to claim 19, refer to "As to claim 15."

As to claim 20, refer to "As to claim 1" and "As to claim 2." Further, Komori also teaches that in the conventional determination of the presence and absence of an application program, the presence/absence of the application program is determined by providing 00h as the specific data at the specified address of the application program, for instance at the last of the application program, and by reading the data in that

address by the boot program and determining whether it is 00h. Here, h of 00h denotes the hexadecimal number (in hexadecimal notation), and 00h (hexadecimal notation) indicates 0 (decimal notation) in which all 8 bits (1 byte) are 0 (column 1, lines 51-60). Thus, it is also adapted to be utilized as a flag to indicate the status of storage portion.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Komori (U.S. 6,490,663), and further in view of Funakoshi et al. (European Patent Application EP 0 903 271 A2).

As to claim 5, refer to "As to claim 1" and "As to claim 2."

With respect to claim 5, Komori does not teach the use of seed data to calculate a security password as part of the write/rewrite operations. However, Funakoshi et al. disclose in their invention "Security Device for Vehicle" an apparatus and a method of a security device for vehicle that is of a type generating a seed that is used suitably in order to generate a key by being encoded (abstract). Figure 1 shows the block diagram of system and the seed generating block (item 13), automatic key generating block (item 15) of the control portion as well as the external unit. Figures 3 and 4 show the program flow of the authentication process, including the exchanging of the seed and the key between the control portion and the external unit. Authentication based on generated seed and key improves the security of the vehicle data. Therefore, it would have been obvious for one of ordinary skills in the art at the time of Applicant's invention to realize the benefit of authentication scheme as demonstrated by Funakoshi et al., and to incorporate it into the apparatus disclosed by Komori to improve the security of the data of a vehicle.

5. *Related Prior Art*

The following list of prior art is considered to be pertinent to applicant's invention, but not relied upon for claim analysis conducted above.

- Kennedy et al., (U.S. 6,084,968), "Security Token and Method for Wireless Applications."
- Brinkmeyer et al., (U.S. 5,708,712), "Vehicle Security Device with Electronic Use Authentication Coding."
- Alajajian, (U.S. 5,668,880), "Inter-Vehicle Personal Data Communications Device."
- Ogasawara et al., (U.S. 5,097,115), "Transaction Authentication System."
- Fiedler et al., (U.S. 5,995,624), "Bilateral Authentication and Information Encryption Token System and Method."
- Zeidler, (U.S. 4,578,530), "End-To-End Encryption System and Method of Operation."
- Wirstorm et al., (U.S. 4,694,492), "Computer Communications Security Control System."

Conclusion

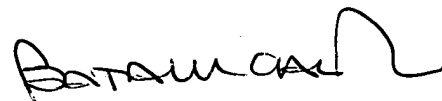
6. Claims 1-20 are rejected as explained above.
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheng-Jen Tsai whose telephone number is 571-272-4244. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sheng-Jen Tsai
Examiner
Art Unit 2186

February 17, 2005



PIERRE BATAILLE
PRIMARY EXAMINER

3/2/05

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PRIMARY EXAMINER